U.S. D.O.T. PHMSA Project No. DTPH56-08-T-000012
Improvements to the ECDA Process

Cased Pipes Research Area

Joint PHMSA and Pipeline Industry Casing Workshop
Sheraton Gateway Suites - O'Hare Airport – Chicago, IL
July 15, 2008

Larry Rankin – Corrpro Companies Inc.

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U.S. D.O.T. PHMSA Project No. DTPH56-08-T-000012
Improvements to the ECDA Process
(3 Research Areas)

1. **Assessment of Cased Pipes**
2. **Severity Ranking of ECDA Indirect Inspection Indications**
3. **Potential Measurements on Pipe Under Pavement**

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PHMSA ECDA Enhancement Project - Cased Pipes

Cased Pipes Project Participants

1. PHMSA
2. Corrpro Companies
3. Texas Gas Association
4. ExxonMobil Pipeline
5. El Paso Pipeline Group
6. Panhandle Energy

Project Time Period – 2 Years

Contract Effective June 15, 2008
Project Completion by June 15, 2010

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Cased Pipes Project Activities

1. **Identify, analyze and determine applicability of existing assessment technologies**
2. **Develop and verify effectiveness of new assessment methodology**
3. **If new methodology is a "Go" with PHMSA and pipeline operators, develop guidelines for DA methodology (guidelines to be provided to standards organizations for development into recommended practices)**
4. **Regardless of "Go" or "No Go", produce project report, prepare recommendations for standards organizations, and conduct web-based workshop and public presentations**

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Cased Pipes Project Activities

1. Survey pipeline industry to identify issues – 3 months
2. Identify existing assessment technologies – 6 months
3. Analyze effectiveness of existing assessment technologies – 9 months
4. Determine applicability of existing assessment technologies – 12 months
5. Develop new assessment methodology – 15 months
6. Verify effectiveness of new assessment methodology – 18 months
7. Determine “Go or No Go” for new assessment methodology – 18 months
8. Develop guidelines for new assessment methodology – 18 months
9. Prepare draft report of project findings for review and comment – 21 months
10. Address review comments and produce final report – 24 months
11. Prepare recommendations for standards organizations – 24 months
12. Conduct web-based workshop and make public presentations - TBD

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Activity 1 - Survey pipeline industry to identify issues

1. Determine magnitude of cased pipe corrosion
2. Identify corrosion mechanisms
3. Identify assessment techniques
4. Identify remedial actions

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Activity 2 – Identify existing assessment technologies

1. Identify existing assessment technologies
2. Determine success rates and reliabilities of existing technologies
3. Identify methods used to validate existing technologies

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Activity 3 – Analyze effectiveness of existing technologies

1. Identify 3 most promising assessment technologies
2. Determine corrosion detection effectiveness of these 3 technologies
3. Identify deficiencies of these 3 technologies

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Activity 4 – Determine applicability of existing technologies

1. Determine ease of use of existing technologies
2. Determine advantages and disadvantages of existing technologies
3. Determine reliability and accuracy of existing technologies

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Activity 5 – Develop new assessment methodology

1. Identify possible improvements to existing technologies
2. Identify new technologies that warrant consideration
3. Develop data integration methodology for existing technologies
4. Develop new external corrosion threat matrix

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Activity 6 – Verify effectiveness of new assessment methodology

1. **Apply improved tools and/or methodologies to cased pipes**
2. **Apply data integration process and analyze results**
3. **Apply new threat matrix to identify risk areas**
4. **Verify results with inline inspection or direct examination**

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Activity 7 – Determine "Go/No Go" for new methodology

1. Evaluate results of previous activities for new methodology
2. Make recommendations to PHMSA regarding "Go/No Go" for new methodology

If PHMSA decides new methodology is a "Go", continue with Activity 8 – Develop guidelines for new assessment methodology

If PHMSA decides new methodology is a "No Go", skip Activity 8 and continue with Activity 9.

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Activity 8 – Develop guidelines for new assessment methodology (guidelines to be provided to standards organizations for development)

1. **Pre-Assessment**
   Collect data, assess feasibility and select assessment tools
2. **Indirect Inspection**
   Perform site surveys and tests (not yet identified) to collect information needed to identify Direct Examination requirements
3. **Direct Examination**
   Perform Direct Examination inspections (not yet identified)
4. **Post Assessment**
   Assess process effectiveness, determine mitigation requirements, and determine reassessment tools and intervals

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Final Activities regardless of whether DA Guidelines are developed

Activity 9 - Prepare draft report of project findings for review and comment

Activity 10 - Address review comments and produce final report

Activity 11 - Prepare recommendations for standards organizations

Activity 12 - Conduct web-based workshop and make public presentations

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First Project Activity

Pipeline Industry "Cased Pipes" Survey Questionnaire

- ✓ Questionnaire development is complete
- ✓ Sending out by email and mail next week to pipeline operators
- ✓ Hard copies available at this workshop (see Larry Rankin)
- ✓ Request responses by August 29
- ✓ Responses to be tabulated and evaluated by September 15
- ✓ Operator input critically needed for project to be a success
- ✓ Please participate

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